Questions and Answers Regarding the
Status Review for Five Wyoming Plants
June 2011

What is a status review?

A status review, also known as a 12-month finding, makes public the Service's decision on a petition to list a species as threatened or endangered under the Endangered Species Act (ESA). The finding is based on a thorough assessment of the available information on the species, as detailed in the species' status review. One of three possible conclusions can be reached as part of the finding: that listing is warranted, not warranted, or warranted but presently precluded by other higher-priority listing activities involving other species.

What plants are covered by this status review?

The five plants covered by this status review are Fremont City rockcress (or small rockcress) (*Boechera* (formerly *Arabis*) *pusilla*), Yellowstone sand verbena (*Abronia ammophila*), Ross' bentgrass (*Agrostis rossiae*), precocious milkvetch (*Astragalus proimanthus*), and Gibbens' penstemon (*Penstemon gibbensii*).

What are these plants and where are they plants found?

Fremont County rockcress is a perennial herb found only in the southern foothills of the Wind River Range, in Wyoming, on land administered by the Bureau of Land Management (BLM) Rock Springs Field Office. There is only one known population of this species.

Yellowstone sand verbena is a low-growing, mat-forming perennial that is restricted to the sandy shoreline of Yellowstone Lake in Yellowstone National Park. This sand verbena occurs in four populations, covering an area of 1.5 acres. The 2010 population estimate is 3,626 individual plants. The majority (95%) of the population is found in the North Shore population.

Ross' bentgrass is a small annual grass that is restricted to glacial deposits that border active geysers and hot springs within the west-central portion of Yellowstone National Park. This bentgrass occurs in four populations within an area of approximately 12 acres. Many of these occurrences are ephemeral subpopulations. Population estimates have remained relatively stable, from 1995 to present, at approximately 5,000 to 7,500 individual plants.

Precocious milkvetch is a mat-forming, stemless, perennial herb. This species was named for its early flowering period, as it has been observed in bloom as early as April 28. This milkvetch occurs on the shale bluffs of the Henrys Fork River, near the town of McKinnon, Wyoming. The habitat of precocious milkvetch is sparsely vegetated rims and gullied upper slopes of benches, bluffs, and mesa-like ridges. Precocious milkvetch occurs in 3 populations that are divided into 26 subpopulations. The entire distribution is limited to an area of less than 320 acres within an area of 4 by 14 miles. Approximately 95% of the known distribution occurs on BLM administered lands. The 2000 survey yielded a total population estimate of 10,500–13,000 individual plants.

Gibbens' penstemon is a perennial forb, with long, narrow, often folded down leaves, that averages 9 inches in height. The bright blue flower is tube-shaped and typically blooms from June to September. This penstemon occurs in a cold steppe climate on barren shale or sandy-clay slopes at elevations of 5,360–7,700 feet on soils that are highly erodible, with low nutrient levels, low soil moisture, and high selenium content.

Gibbens' penstemon is a regional endemic that occurs near the intersection of the borders of Wyoming, Colorado, and Utah. This penstemon is known from nine occurrences, which are spread across 120 miles and occupy approximately 300 acres in these three states. Approximately 77% of the population occurs on State and Federal lands, with the remaining occurring on land managed by The Nature Conservancy that includes private lands. The population is currently estimated at 11,000–14,000 individual plants.

What is the U.S. Fish and Wildlife Service's determination regarding the status of Fremont City rockcress?

After evaluating all the available scientific and commercial information regarding these five species, including an analysis of the threats to the species and their habitat, the U.S. Fish and Wildlife Service (Service) has determined that Fremont City rockcress does warrant protection as a threatened or endangered species under the ESA. However, listing Fremont City rockcress at this time is precluded by the need to address other listings of higher priority.

The Fremont City rockcress will be added to the list of candidate species under the ESA and will be proposed for listing when funding and workload priorities for other listing actions allow.

Candidate species are plants and animals for which the Service has sufficient information on their biological status and threats to propose them for listing as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by higher priority listing actions to address species in greater need.

Candidate species receive no statutory protection under the ESA, but the Service encourages voluntary cooperative conservation efforts for these species because they are, by definition, species that warrant future protection under the ESA.

If the Service proposes the Fremont City rockcress for listing in the future, the public will have an opportunity to comment.

What are the primary threats to Fremont County rockcress?

The primary threat to Fremont County rockcress has not been fully identified, but is apparent by the small and declining population size. The population size may be declining from a variety of unknown causes, with drought or disease possibly contributing to the trend. The trend may have been reversed somewhat, but without improved population numbers; the species may reach a population level at which other stressors become threats. The species may already be below the minimum viable population, so other stressors may begin to present threats to the species.

To the extent that we understand the species, other potential habitat-related threats have been removed through the implementation of Federal regulatory mechanisms and associated actions. The Bureau of Land Management (BLM) has implemented measures such as: designating Fremont County rockcress as a BLM sensitive species; including Fremont County rockcress in the Sensitive Plant Status Area of Critical Environmental Concern; including the species within a Special Recreation Management Area; and erecting an exclosure. These measures have removed several potential threats to the species including off-road vehicle use, heavy foot traffic, mining, and energy development.

Is there an estimate of how many Fremont County rockcress plants currently exist?

Surveys completed on Fremont County rockcress typically estimate the total flowering plants in the entire population (i.e., total for the species) and the total flowering plants in a plot located in the largest subpopulation. In 2010, there was an estimated 283 flowering plants in the entire population, with 56 flowering plants occurring within the plot.

How do Fremont County rockcress reproduce? What is their reproductive success?

The habitat in which Fremont County rockcress occurs has a short growing season (approximately 30 days). This species only flowers in May and June with fruits maturing several weeks later. Not all plants produce fruit in a particular year, which is thought to be caused by freezing conditions in spring or possibly drought. All Fremont County rockcress reproduction is apparently by seed and the species is apomictic (i.e., reproduces by seed with no fertilization, resulting in offspring that are essentially clones). We have no information on whether Fremont County rockcress might exhibit a mixed-mating system as in other species of the same genus. We have no information on how long the species' seeds remain viable or under what conditions they germinate. Reproductive success may vary considerably from year to year depending on climate conditions, leading to wide fluctuations in populations. The seeds are non-winged that likely drop near the parent plant, with some seeds dispersed via wind or water. Fremont County rockcress has relatively few seeds per fruit compared to other species of the same genus.

If protecting the Fremont County rockcress is warranted, why is taking action on the Fremont County rockcress a lower priority than for other species? What criteria did the Service use to determine this lower priority?

In order to make the most effective use of its limited resources for listing species under the ESA, the Service has developed a priority system designed to direct its efforts towards the plants and animals in greatest need of protection. Candidate species are assigned a priority number from 1 to 12, with 1 being the highest priority, based on multiple criteria. First, the magnitude of the threat is consideration, followed by the immediacy of the threat, and the taxonomic distinctiveness of the species (the most distinctive is a monotypic genus, then a full species, and lastly a subspecies, variety or vertebrate population).

The threats to Fremont City rockcress are not fully understood; however, we know they exist as indicated by the declining population. Because we have not detected the source or nature of the

threat, we consider the magnitude of the threat to be moderate. Second, we considered the immediacy of threats. We consider the threat to Fremont City rockcress to be imminent. The threat appears to be ongoing, although we are unsure of the extent and timing of its effects on Fremont City rockcress. The threat is occurring in the only known population of Fremont City rockcress and the population may already be below the minimum viable population requirement, which may allow population reductions and increases in population vulnerability to occur more quickly in the future. Third, Fremont City rockcress is a valid taxon at the species level.

Based on these factors, the Service has assigned Fremont City rockcress a listing priority number of 8. We will continue to monitor the threats to the species and the species' status on an annual basis. We request the public submit any new information concerning the status or, or threats to, this species to our Wyoming Ecological Services Field Office, 5353 Yellowstone Road Suite 308A, Cheyenne, WY 82001.

How many species are currently on the candidate list? How many candidate species will be addressed in the coming year?

There are 263 species that are candidates for listing, and due to pending petitions to list several hundred additional species, this number may increase by FY 2012. We currently have funding to work on proposed rules for 90 of the candidate species.

Given how many species will remain on the candidate list after 2012, how long is it likely to be before Fremont City rockcress will be proposed for protection under the ESA?

The Service has been making steady progress in recent years to prepare listing proposals for candidate species. In any given fiscal year, multiple factors dictate how much work the Service can undertake to prepare proposed listing documents. The resources available for listing actions are determined through the annual Congressional appropriations process. The number of listing actions the Service can undertake also is influenced by the complexity of those actions, which can vary widely. Thus, it is difficult to predict how long it might be before the Service prepares a proposed rule for Fremont County rockcress. We will, however, review its status annually and work with States, other Federal agencies, private landowners, and other partners to step up efforts to conserve the species.

Is it possible that, before Fremont County rockcress is actually proposed for listing, the Service might decide that it no longer warrants proposed listing, and if so, what would have to happen for that to be the case?

Yes, it is possible that the Service might decide Fremont County rockcress no longer warrants listing. The Service is required to annually update a finding that a species is warranted but precluded for listing. During that process, we consider new information that becomes available about the species and its status, including new information about its biology, threats and their estimated impact and estimated risk to the species, and the effectiveness of conservation efforts. This formal annual process allows the Service to review the status of Fremont County rockcress until such time as either a proposed listing rule is published or a finding is made that listing is not warranted.

What is the Service's determination regarding Yellowstone sand verbena, Ross' bentgrass, precocious milkvetch, and Gibbens' penstemon?

The Service has determined that Yellowstone sand verbena, Ross' bentgrass, precocious milkvetch, and Gibbens' penstemon do not warrant protection as threatened or endangered species under the ESA; however, we will continue to work with landowners to conserve these plants.

What threats were examined concerning Yellowstone sand verbena, Ross' bentgrass, precocious milkvetch, and Gibbens' penstemon?

For each of these species, the Service evaluated the effects of development, nonnative invasive plants, climate change, drought, overutilization, disease, predation (grazing and/or herbivory), inadequate regulatory mechanisms, small population size, and reduced genetic diversity.

Additionally, the Service examined the effects of trampling and lack of pollinators on Yellowstone sand verbena; the effects of trampling, fire, and *Agrostis scabra* (rough bentgrass) on Ross' bentgrass; the effects of energy development, road construction, off road vehicle use, range improvements, disposal sites, and fire on precocious milkvetch; and the effects of energy development, road construction, trampling, and lack of pollinators on Gibbens' penstemon.

Why did the Service conduct a status review of these five species?

The Service was petitioned by Forest Guardians (now WildEarth Guardians) to list 206 species in the Mountain-Prairie Region ranked as G1 (critically imperiled) or G1G2 (within the range of critically imperiled to imperiled) by the organization NatureServe. This petition included the five plant species addressed in this finding.

How does the Service determine whether a species needs to be listed under the ESA?

Under section 4 of the ESA, species are determined to be threatened or endangered because of one or more of the following five factors: 1) present or threatened destruction of habitat; 2) overutilization; 3) disease or predation; 4) inadequacy of existing regulatory protections; 5) other natural or human-made factors.

June 2011